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Municipal Service Delivery: The Role of Transaction Costs in the Choice between Alternative Governance Mechanisms

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Municipal Service Delivery: The Role of Transaction Costs in the Choice between Alternative Governance Mechanisms

Abstract

Service provision by local governments can be delivered using in-house bureaucracies, private firms, and partnerships with other governments or the not-for-profit sector. This production decision has been a major focus of discussion among scholars, practitioners and political agents for the last quarter of a century. The transaction costs framework is an important tool to analyse decisions regarding the production of local services. In this paper, the authors employ this framework to analyse service delivery in Portugal and find that service characteristics and the local political environment play a key role in local officials' choice among the three governance mechanisms to deliver public services.

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Municipal Service Delivery: The Role of Transaction Costs in the Choice between Alternative Governance Mechanisms

Due to their level of proximity and periodic transfers of competences from the national government, local governments in Portugal gained importance over the past two decades as service providers. Their functional responsibilities have been extended significantly over several areas including water supply, promotion of regional development, solid waste collection, emergency management, health care, education, land use management, among many others. To cope with all these challenges, local governments changed from a general, multi-purpose organisation to a complex network of relationships with other public bodies, private agents, and not-for-profit organisations.

The choice of local officials regarding service delivery options has been an issue of debate over the past quarter century both in the academic and practitioner literatures. Prior research highlights the role of service type, the level of political and administrative turnover, and the socioeconomic and demographic status of the jurisdiction as relevant factors influencing the decision (Stein, 1993; Clingermayer, Feiock & Stream, 2003; Feiock, Clingermayer, & Dasse, 2003; Joassart-Marcelli & Musso, 2005; Brown, Potoski, & Van Slyke, 2006; Carr, LeRoux & Shrestha, 2009; Feiock and Jang, 2009; Shrestha & Feiock, 2010). The significant amount of research in the US context contrasts sharply with the limited scope of analysis in Europe, where most research focuses in dyadic choices e.g. public versus private or public versus not-for-profit options rather than analysing the three sectors simultaneously. One notable exception to this rule examines the use of mixed public-private firms as a partial privatisation strategy for water distribution and solid waste collection services (Bel & Fageda, 2010).

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This work begins to fill this important lacuna by testing a transaction costs model of service delivery with data from municipal governments in a European setting. Specifically, we collected data on service provision and production choices in Portugal and employ these data to test a transaction costs model of service delivery options by a sample of Portuguese local governments. The transaction costs framework suggests that there are costs in adopting external solutions resulting from bounded rationality and opportunistic behaviour by the agents. As transaction costs increase, the production cost efficiency gains from externalization become less decisive. Service complexity, asset specificity, and the local political environment influence the level of transaction costs and hence the decision to externalize the service.

The transaction costs hypotheses are tested using a multinomial logit regression model. This test is an extension of other efforts reported in the literature and the goal is to cast contracting choices as delegation decisions involving economic and political transaction costs. The survey of Portuguese local governments allowed us to identify a total of twelve government arrangement alternatives to deliver public services. These twelve alternatives are organized in three 'classic' governance mechanisms – hierarchy, market, and partnerships/networks – according to a set of predefined criteria. We measure the economic and political transaction costs involved in service delivery while controlling for other contextual factors affecting the decision choice.

The first section summarizes the literature of the application of the transaction costs framework to the choice of service delivery mechanisms. Next, we develop the theory and present a series of hypotheses linking transaction costs with service production choices. The third section describes the context of our study highlighting both the historical constraints associated with production choices in Portugal and the relevance of this study for gaining additional understanding of local governments in

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Southern European countries. Data and methods are presented in section four and the findings reported in section five. The piece closes with a brief set of conclusions and implications for future research.

Literature Background

The transaction costs framework (TCF) is frequently used by scholars as an important tool to explain the choice between different alternatives to deliver public services (Brown & Potoski, 2003; Lamothe, Lamothe, & Feiock, 2008; Tavares & Camões, 2007, 2010). Robert Stein (1993) employs service typologies developed by Ostrom and Ostrom (1977) and Peterson (1981) to support the argument that government service delivery arrangements are a function of the nature and scope of the service to be provided. Ferris and Graddy (1986; 1991) point out the nature of the service as the main factor in decision making and highlight the challenges that local governments face when contracting out with private vendors. Building on the work of Ronald Coase (1937) and Oliver Williamson (1981; 1985; 1996) on transactions costs, Brown and Potoski (2003; 2005) argue that local government choices are driven by the degree of asset specificity and service mesurability involved in the decision to provide local services.

The key argument of the TCF states that the comparative analysis of financial costs of the capital invested, personnel, and property costs (production costs) is insufficient to justify the choice of one of the alternative mechanisms to deliver public services. The costs associated with negotiating, monitoring, and enforcing contracts with external vendors must also be considered, as transaction costs, in the analysis of alternative forms of production (Brown & Potoski, 2003). The decision to produce a service through an in-house bureaucracy, externalize it to a private vendor or resort to

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other government or not-for-profit organisation is influenced by the transaction costs of service delivery associated with service characteristics and political context. Thus, the most appropriate governance mechanism is the one that minimizes the transaction costs of service delivery (Brown & Potoski, 2003, Nelson, 1997; Ferris & Graddy, 1997; Feiock, Clingermayer, Shrestha, & Dasse, 2007).

Transaction costs result from bounded rationality and agent opportunism involved in contractual agreements and vary according to service characteristics, including the specificity of assets, service measurability, and the frequency of transactions (Coase, 1937; Williamson, 1985). Better productive efficiency can be achieved through private production because production costs tend to be lower in the private sector. However, external delivery choices involve transaction costs stemming from the need to mitigate agent opportunism in contractual agreements. When total costs are considered in-house options may actually become more efficient alternatives (Nelson, 1997). Empirical work by Bel and Fageda (2010) compares the use of mixed firms with pure public and pure private production options and finds that private production is less likely for services displaying high transaction costs (water distribution).

The consideration of total costs involves not only the economic transaction costs related with service characteristics but also the 'political' transaction costs linked with the political environment of service delivery. While economic transaction costs are directly related to the characteristics of the goods or services being contracted, political transaction costs are external to the transaction but may constrain the choice of the production mechanism to be employed. The model presented here accounts for both types of transaction costs associated with service delivery choices.

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Service Characteristics, Political Environment and Production Choices

When deciding to provide specific services, local government officials are faced with alternative mechanisms to produce these services. The choice involves three major components: the characteristics of the service, a set of external constraints, and the production alternatives available. This section is concerned with the first two aspects of the production decision. The next section tackles the last.

Economic Transaction Costs

Economic transaction costs are associated with the uncertainty involved in contracting with external agents (other governments, nonprofit organisations or private firms) for service production. Contractual agreements entail both ex-ante and ex-post problems derived from bounded rationality and opportunism. Adverse selection is associated with hiring an agent that will not fulfill the contractual terms, something that the hiring government cannot perfectly detect in advance due to bounded rationality. In order to overcome adverse selection, local officials face costs involved in the process of searching, selecting and hiring the agent in a context of imperfect information.

Moral hazard occurs ex-post and can be regarded as the costs of monitoring the agent's effort and/or performance. In the absence of perfect information, the agent can behave opportunistically by failing to upheld the terms of the contract. Monitoring activities entail costs that increase with service complexity, e.g., opportunistic behavior is easier to monitor in the case of a solid waste collection company than in mental health care services.

Adverse selection and moral hazard are closely associated with two service characteristics: asset specificity and service complexity. In general, it can be argued that

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economic transaction costs increase either when contracting for highly specific assets or when monitoring highly complex services.

Asset specificity increases transaction costs because specific and specialized investments and skills are difficult to redeploy in alternative uses in public service production. After the first round of procurement, contract agreements for asset specific goods and services lock buyer and seller in a bilateral monopoly. The contracting government is a single service purchaser who attributes the first contract to the best bidder who in turn becomes vulnerable to the monopsony. Since the investments are highly specific the winner develops a competitive advantage over other vendors in future contracts. As competition for future procurement decisions is reduced, the local government becomes exposed to opportunism on the part of the initial winner (Williamson, 1985; Brown, Potoski, & Van Slyke, 2006).

The externalization of asset specific goods and services can result in a fundamental transformation, whereby the initial large numbers bidding is converted into an ex-post bilateral supply (Williamson, 1985: 61). As a result, services involving highly specific assets tend to be provided by hierarchical mechanisms, while services with low asset specificity are provided using market solutions (Coase, 1937; Williamson, 1981, 1985; Ferris & Graddy, 1997; Nelson, 1997).

Recent empirical findings point to a more complex relationship between asset specificity and externalization. Brown and Potoski (2003) suggest and find support for the idea that local governments turn to external service providers because highly specific assets have also capital-intensive cost structures. Shrestha and Feiock (2010) argue that the relationship between asset specificity and externalization follows an inverted U-shaped. Intergovernmental contracting is more likely at mid-range levels of asset specificity, while in-house production predominates at very high levels and private

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contracting is more frequent at lower levels. Carr, LeRoux, and Shrestha (2009) find support for this nonlinear relationship, particularly that at very high levels of asset specificity local governments avoid nongovernmental producers. Based on the theoretical arguments by Williamson (1985) and the findings by Carr, LeRoux, and Shrestha (2009), we hypothesize that:

Hypothesis 1: Services involving highly specific assets are less likely to be provided by market mechanisms.

Hypothesis 2: When externalization is an alternative to hierarchic mechanisms, local officials are more likely to partner with other governments or nonprofit organisations to produce highly specific assets.

Service measurability refers to the degree of difficulty to evaluate service outcomes and monitor the performance of the agent. According to the assumptions of transaction costs theory, service measurability is a problem due to information asymmetry because the presence of both bounded rationality and opportunism leads to moral hazard contractual problems (Williamson, 1985). Service activities that are easy to measure are more suitable to be described in a formal contract and therefore more amenable to external production. In contrast, complex and/or intangible activities are less amenable to monitoring by the contractor, so transaction costs increase significantly for contracting out these activities.

Past findings in the empirical literature indicate a significant degree of support for this service complexity hypothesis (Brown & Potoski, 2003; Levin & Tadelis, 2007). However, recent empirical work points out that there are situations of externalization to nonprofit organisations, even in the case of complex services

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(Lamothe, Lamothe, & Feiock, 2008; Feiock and Jang, 2009). Presumably this occurs due to the fundamental differences in terms of values and goal congruence between the private and the public and not-for-profit sectors. Profit maximization constitutes a high-powered incentive for private firms that can lead to a decline in service quality to reduce costs (Frant, 1996). The efficiency gains associated with contracting out with private firms, particularly in the case of labor intensive services, are counterweighted by potential opportunistic behavior on the part of profit-seeking firms (Ferris & Graddy, 1986; Lamothe, Lamothe, & Feiock, 2008; Feiock and Jang, 2009). The incentives to opportunism are less prevalent in the public and not-for-profit sectors, where slack resources are reinvested in organisational activities or reverted back to organisational budgets. Hence, when externalization is considered for efficiency reasons, the use of network mechanisms is more likely, namely the establishment of partnerships with other public agencies or third sector actors.

Hypothesis 3: Services that are complex and/or difficult to measure are less likely to be provided through market mechanisms.

Hypothesis 4: When externalization is an option, local officials prefer partnerships with other governments or nonprofit organisations to produce complex and/or intangible services.

Political Transaction Costs

Political transaction costs result from the context where the service is provided and lead to limitations of sector choice by local officials. In other words, in the presence of political transaction costs local officials see the number of service production

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alternatives reduced due to factors which are not directly related with the contractual decision, but stem from the context where this decision takes place. Political transaction costs are not 'political' in the partisanship sense, but linked with the credibility of the local government in a contractual exchange (North, 1990; Dixit, 1996).

An adverse political environment reduces the attractiveness of service contracts because it creates uncertainty for potential private and not-for-profit organisations due to the possibility of government reneging on contractual agreements. Political and/or administrative instability in the local executive can adversely impact the level of transaction costs and reduce the alternatives regarding service delivery. Recent work by Feiock and Jang (2009) confirms this argument by finding a negative relationship between mayoral turnover and nonprofit contracting for elder services.

Having the same executive for several consecutive terms may be translated into greater confidence and expectation of credible commitment to establish contracts. According to Feiock, Clingermayer, and Dasse (2003), this stability facilitates the use of external agents in the provision of public services. However, the same authors alert to a possible exception to this effect. A higher level of political instability may also be an incentive to the externalization of public services in order to shift blame to the providers (Frant, 1996; Clingermayer & Feiock, 1997; Hood, 1998). In this case, the use of nonprofit organisations or partnerships with other governments may be a more viable alternative than private firms. Local officials are able to duck blame while at the same time overcome the absence of private vendors willing to enter contractual agreements due to political and/or administrative instability. In light of these findings, we posit that:

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Hypothesis 5: Political instability decreases the probability of adoption of market alternatives and increases the likelihood of using partnerships rather than hierarchical solutions.

Hypothesis 6: Administrative instability decreases the probability of adoption of market alternatives and increases the likelihood of using partnerships rather than hierarchical solutions.

The relationship between financial status and the decision to outsource the provision of public services has been a matter of strong contention in the empirical literature. The dominant view in the public administration literature is that adverse financial situations lead to the adoption of external arrangements rather than in-house hierarchical solutions. With reduced financial capacity, the need to provide public services at reduced costs leads local governments to use market and/or partnerships as external procurement is expected to be more innovative and cost effective (Ferris, 1986; Brown, Potoski, & Slyke, 2006).

However, empirical findings in the field of economics suggest that contracting out at the local level may actually be more prevalent during economic upturns (Borcherding, 1988; Wittman, 1989; see also Pallesen, 2004). This argument underlines that the externalization of services to achieve technical efficiency and cost savings during economic austerity ignores the transaction costs associated with externalization decisions. When transaction costs are accounted for "it may very well make it rational for the city to produce the service in-house" (Nelson, 1997: 84).

This argument is also in line with the idea that financial crises reduce the leverage of local governments over their options. Externalization involves unacceptable political and electoral risks due to the loss of political control in fundamental service

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delivery areas. Consistently, it can be argued that contracting out is primarily a political decision and, as a result, it can only be undertaken when public revenues and expenditures are easier to increase in order to reduce public employee resistance. Where local public sector unions are stronger, such as in highly decentralized countries, opposition to contracting out may be especially vigorous during economic decline (Pallesen, 2004).

Hypothesis 7: Jurisdictions facing fiscal stress are less likely to externalize their services.

Control Variables

Community characteristics can also affect the decision of the production alternative to be employed. Communities facing significant economic and demographic changes are more likely to resort to externalization, either through contracting out with private vendors or by establishing partnerships with the not-for-profit sector. Heterogeneous communities display increased preference diversity and citizen demands over local government service provision (Clingermayer, Feiock, & Stream, 2003; Feiock and Jang, 2009). Preference diversity in a local jurisdiction varies positively with the increase in personal income per capita, population growth, density, and urbanization. Organisation theory suggests that jurisdictions facing such pressures are more likely to diversify their service delivery options, since hierarchical mechanisms seem more appropriate for stable environments (Weber, 1947; Alexander, 1995; Beetham, 1991; Blau & Meyer, 1971). In dynamic environments, with greater levels of functional complexity, more flexible solutions are expected (Burns and Stalker, 1961).

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Local Service Delivery in the Portuguese Context

The decision to provide specific services involves the consideration of all possible alternatives to produce each service provided by local governments. The last section employed a transaction costs framework to address two important features of this choice: the characteristics of the service to be produced and the external constraints that can influence the outsourcing decision. This section is concerned with the production alternatives available to local government officials. The discussion is framed by the history and the evolution of functional responsibilities of local governments in Portugal.

Local governments deliver public services using a complex set of organisational choices. Hierarchy is the coordination mechanism most commonly used by Portuguese local governments (Rodrigues, 2009) and it is consider the most natural and efficient way to manage bureaucratic organisations in a stable environment (Weber, 1947; Alexander, 1995; Beetham, 1991; Verhoest, Peters, Beuselinck, Meyers, & Bouckaert, 2004).

Local governments in Portugal have a longstanding tradition and most municipalities (*concelhos*) have existed with significant autonomy since the Middle Ages. They had autonomy to manage the council business in what concerns their land, commerce transportation regulations and markets, road construction and maintenance, local income and price taxes, police power, among others (Manique, 1989). In the XIX century municipal autonomy was suspended. The liberal regime attempted to rationalize the administrative system and to control municipalities by embracing the French Napoleonic structure of administration. The debate about the territorial division and

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organisation was inspired by the French administration. Over time, centralization and state power turned the country into a highly centralized administrative state (Livermore, 1976).

The advent of the republican regime in the early years of the XX century and particularly the authoritarian administration of the *Estado Novo* (1926-1974) reinforced the centralized pattern of Portuguese institutions. The regime developed a corporative and autocratic emphasis, strengthened the importance of the administrative bureaucracy, and introduced institutional uniformity. During the dictatorship period, municipalities had limited competencies and operated as an extension of the national government. For a period of almost fifty years, municipalities essentially played a role as administrative units of the state (Opello, 1983), acting as administrative agencies organizing activities in-house according to a single structure model of local service delivery.

Services responsible for the preparation and implementation of administrative decisions were organized as hierarchical structures, the Municipal Services (*Serviços Municipais*) (Oliveira, 1996). For services of an economic and industrial nature, such as water distribution, electricity, sewage, garbage collection, and public transportation, local governments were allowed to create Municipalized Services (*Serviços Municipalizados*), under certain conditions established by law (Pereira & Almeida, 1985: 214). Approved by the Municipal Assembly (deliberative body), these services had some financial autonomy and an Executive Board, but stopped short of having corporate-like status, since the municipality was the sole owner and they remained hierarchically integrated in the municipality (Caetano, 1982).

The democratic regime introduced in 1974 and the Portuguese Constitution of 1976 re-established democratic local power, new service delivery roles, and financial and administrative autonomy. As new competences were ascribed to local governments,

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citizens became more aware of their role and the central government started a new era of intergovernmental relations based on three basic principles: local autonomy, decentralization, and subsidiarity.

The new functional competencies and the political, social, and economic development pressured the emergence of new forms of local service delivery. However, New Public Management ideas and organisational forms are late comers in the Portuguese local government scene. The continental Europe juridical tradition of administrative reform emphasized changes in legislation not managerial changes (Rodrigues and Araújo, 2006). The country's history and political culture also contribute to explain this resistance to market alternatives and the predominance of state-oriented production choices (Tavares & Camões, 2007: 537).

Nevertheless it is possible to identify some changes in public service delivery based on market type mechanisms and the use of private management tools. By the mid 1980s, local governments began using contracting-out or franchising as alternatives to in-house solutions. The relationship between local governments and private agents was based on contractual agreements between the parties in a competitive environment.

Since the late 1990s local governments were authorized to create Municipal and Inter-municipal Corporations. These have corporate-like status and administrative, financial and patrimonial autonomy, and are regulated by the law of public corporations and by the commercial society's code. In theory, this solution resembles the use of externalization, since it shifts public service production to a different agent than the local government. However, municipal power remains untouched since local governments decide the creation, modification and termination of the corporations as well as control appointments to their managerial boards. In practice, both financial and personnel management are often integrated as local governments are forced to

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consolidate accounts and employees can be transferred from the in-house bureaucracy to the corporation payroll and vice-versa.

More recently, local government extended the use of partnership mechanisms to provide services to their citizens. Partnerships with nonprofit organisations and other governments are now regarded as viable options to provide municipal services, particularly in the field of social policy (elderly care services, child care, social housing, and health care). While contracting out requires special care with contractual writing, monitoring and evaluation activities, partnerships with not-for-profit organisations provide some of the market advantages, but are based on reciprocity, shared goals and values, and information facilitation through voluntary participation of all actors (Feiock, Clingermayer, Shrestha, & Dasse, 2007).

Local governments have also created commercial companies. In some cases, these new entities were created with other municipalities (Municipal Commercial Societies), with the central government (Public Commercial Societies), and with private agents (Mixed Commercial Societies). In the first two types, the split of decision powers indicates these classify as partnerships, while in the last case the municipality is a minority shareholder in a private firm.

In sum, local government officials are able to choose from a total of twelve alternatives available to produce services. Not all twelve alternatives are actually available to all services provided by local governments in Portugal, as many do not have the market opportunities or potential nonprofit partners to contract with (Rodrigues, 2009). The complete list is depicted in table 1.

These organisations of service delivery can be classified according to broad governance arrangements (hierarchy/market/network). Table 1 uses a set of organisational features to classify each service delivery arrangement within a

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governance mechanism. We use the direct control criteria for hierarchic type mechanisms (HTM), competition criteria for market type mechanisms (MTM), and inter-organisational cooperation criteria for network type mechanisms (NTM).

[Table 1 here]

Data and Methods

In presenting our hypotheses, we discussed several determinants of the choice between alternative governance mechanisms. The variables included in the analysis concern service features, political environment, and community characteristics measured by the indicators described in table 2.

During the year 2008, we conducted an electronic survey of local government officials in 278 municipalities in Continental Portugal. We received 101 valid responses, corresponding to a 36.3% response rate. Our dependent variable is the governance mechanism chosen by the 101 municipalities to provide 42 different services. The total number of observations included in the analysis is significantly reduced because not all services are provided by the respondents.

Following procedures by Brown and Potoski (2003; 2004, 2005), Levin and Tadelis (2007), Feiock, Clingermayer, Shrestha, and Dasse (2007), and LeRoux (2007), we assess the level of asset specificity and service measurability by asking officials to rate each municipal service in two scales from 1 (low) to 5 (high) asset specificity and from 1 (low) to 5 (high) service complexity. Since both service characteristics are related to the provisions defined in the contractual agreement, the perception of local officials is most likely the best approximation to measuring these features. The survey

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provided assistance to the respondents by clarifying the concepts of asset specificity and service complexity. Asset specificity was defined as (Brown & Potoski, 2005: 329):

"• the use of a specific location that is only movable at a great cost;

• the use of highly specialized human skills that cannot be put to work for other purposes;

• the use of specialized tools or a complex system designed for a single purpose;

• the requirement that the service reach the user within a relatively limited period of time or the quality of the service greatly diminishes."

[Table 2 here]

When dealing with service complexity, again we clarify the concept (Brown & Potoski, 2005: 335):

"• government officials can easily write a contract and clearly specify the activities and outcomes for the vendor to perform and achieve;

• government officials can monitor the quality and quantity of these activities and their outcomes;"

Political and administrative stability are measured following a similar procedure as suggested by Feiock, Clingermayer, and Dasse (2003). For each indicator (administrative and political) we asked the respondents to rate on a scale from 1 (less stability) to 5 (more stability) the classification that best suited their jurisdiction. The indicators to gauge the financial status of the municipality are extracted from the Financial Yearbook of Portuguese Local Governments edited by Carvalho, Fernandes, Jorge, and Camões (2006) and published by the Center for Research in Public Policy and Administration. Financial dependency is the proportion of central government

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grants in total local revenues. Net debt is calculated as the total local budgetary balance. The first variable gauges long-term financial status of the local community, whereas the second variable is primarily a short-term measure of budgetary stress.

In order to control for community characteristics, we employ a diverse set of indicators that taps into different aspects of local dynamics. Socioeconomic status is gauged by personal income *per capita* and by a social development index (SDI) calculated as the average of three indexes: life expectancy, educational level, and basic local infrastructure coverage. The SDI varies from 0 to 1. Demographic trends are accounted for by the rate of population growth, area, and population density. These indicators also control for possible scale economies associated with local service production. We control for the economic profile of the community by including the proportion of urban land use. Data was retrieved from the National Bureau of Statistics (INE, 2006). All variables and indicators are summarized in table 2 and descriptive statistics are included in table 3.

[Table 3 here]

The dependent variable assumes one of three possible nominal outcomes: hierarchy (coded 1), market (coded 2), and networks/partnerships (coded 3). Table 4 presents a complete description of our dependent variable, including the number of municipal governments providing each of the 42 services in our data set, as well as the production decisions associated with each of the services. Most services are produced through in-house bureaucracies. There are a few exceptions to this rule, namely electrical power, health care services, public transportation, and solid waste treatment. Out of 4242 possible provision decisions, the 101 local governments included in our

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sample provide 2843 services, the vast majority produced by in-house bureaucracies or other hierarchical variations (77.7%). Markets are used in 319 cases (11.22%) and networks/partnerships in 315 (11.08%).

[Table 4 here]

The literature indicates that the multinomial logit model is the most appropriate for estimating unordered, multi-category dependent variables, as this is an extension of the binary logit regression model when the dependent variable is no longer dichotomous but a nominal one (Borooah, 2002, Aldrich & Nelson, 1984; Liao, 1994). The model assumes a reference category (in our case, hierarchy), and provides the odds, in probabilistic terms, of the other categories (market and networks) (Borooah, 2002, Aldrich & Nelson, 1984; Liao, 1994). This econometric model uses maximum likelihood for estimating regression coefficients. This method is used in logit models because the errors do not follow a normal distribution and do not have constant variance. Robust standard errors are calculated with the Huber/White/Sandwich (HWS) variance estimator.

Table 5 displays multinomial logit estimates for the choice of external provision by local decision-makers as an alternative to hierarchical, in-house solutions for the production of public goods and services. The assumption is that local officials prefer hierarchical solutions as a default, but the transaction costs factors influence the decision to externalize. Three specifications are included. The first specification is the full model including service characteristics, political environment, and control variables. The second specification incorporates service characteristics as the only set of independent variables and the third includes all economic and political transaction costs

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variables. These specifications are included as a check for consistency in the behaviour of the coefficients and standard errors of the estimates.

Findings

The overall results confirm the theoretical expectations that transaction costs play a crucial role in the decision to externalize the production of local public services. The stronger result concerns service characteristics. Highly specific assets are externalized primarily using network/partnership mechanisms supporting the argument that there is less potential for opportunistic behaviour when contracting with other governments and nonprofit organisations (Lamothe, Lamothe, & Feiock, 2008). The evidence indicates that markets are the least preferred mechanism to produce highly specific assets, which also concurs prior findings (Carr, LeRoux and Shrestha, 2009; Nelson, 1997).

[Table 5 here]

Regarding service measurability, the results are even more unequivocal in terms of the theoretical prediction of transaction costs analysis. For complex services there is a clear preference for in-house production when market externalization is the alternative. The choice between hierarchical and network mechanisms is unclear as we do not find evidence that one is favoured over the other. In all, Portuguese local officials seem to prefer a more conservative approach in the production of complex services. The local bureaucracy or other arrangement under direct supervision of local officials is regarded as the best way to control service delivery when contracts are hard to write and enforce.

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The findings concerning political transaction costs suggest that stability is associated with direct service provision through in-house bureaucracies, whereas political or administrative turmoil lead local officials to search for externalization options. This is inconsistent with the idea that political transaction costs hinder externalization, but supports the argument that local officials prefer external alternatives in the face of internal conflict as a circumvention strategy to avoid service disruptions or to shift blame to external providers (Clingermayer & Feiock, 1997; Feiock, Clingermayer, & Dasse, 2003; Hood, 2007; Tavares & Camões, 2010).

The results concerning the impact of the financial status of the municipality upon externalization are worth analyzing. The strongest point that can be made is that as the level of financial dependency increases, the probability of adopting market solutions decreases compared to hierarchical mechanisms. Pallesen (2004) explains this situation using the expression 'the politics of good times'. The author states that a good financial condition leads to the adoption of externalization because there is less friction caused by public unions at the local level. In Portugal, local governments that are highly dependent from central government transfers seem to display risk-averse strategies consistent with conservative preferences over service production alternatives. Under conditions of financial dependency and budgetary constraints the margin of error is extremely small and it does not allow local officials to engage in innovative and more uncertain options such as externalization. These findings are in line with the idea that officials resist experimenting with innovative mechanisms of governance and are also less enthusiastic regarding the adoption of New Public Management reforms (Rodrigues & Araújo, 2006).

Concerning community characteristics, we anticipated that higher levels of socioeconomic and demographic changes could promote the use of both market and

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network mechanisms. Table 5 confirms this expectation. The level of social development, per capita personal income, and the proportion of urban land are positively associated with the use of market mechanisms. The same conclusion is valid for the relationship between the percentage of urban land use and network mechanisms. Population density is the single finding that contradicts our prior expectations. One possible explanation for this counterintuitive result is that local officials in highly dense jurisdictions are able to secure scale economies by keeping service production in-house.

[Table 6]

Table 6 displays the relative risk ratios for the independent variables and the percentage change in predicted probabilities. The odds ratios or relative-risk ratios (RRR) represent the impact of each variable in the choice of external governance mechanisms compared to the base outcome (hierarchy). The percentage change in predicted probabilities is calculated by varying each independent variable from its minimum to its maximum observed value in the sample while setting the remaining independent variables at their means. The percentages indicate the increase or decrease in probability of external production compared to hierarchical/direct provision.

The analysis of service characteristics confirms that economic transaction costs play an important role in the choice of governance mechanisms. As expected, more complex services are less likely to be contracted with private vendors. An increase in one unit in the difficulty of measurement scale reduces the probability of using market mechanisms as an alternative to hierarchy by 25 percent. On the other hand, higher levels of asset specificity promote the use of network mechanisms. Substantively, a one unit change in the asset specificity scale increases the likelihood of partnership/network

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production by 55 percent. This effect is extremely strong, since the variation in predicted probabilities is close to 400%, increasing from 3.6% when asset specificity is at its minimum to 18.05% at the maximum value.

Analyzing political and administrative stability, we verify that in both cases, higher levels of stability promote the use of hierarchic mechanisms. While political stability is associated with a reduction in the likelihood of service production using network arrangements, administrative stability is primarily linked to less reliance on private sector firms. Both effects have similar magnitudes, indicating that externalization is preferred in jurisdictions dealing with internal turmoil.

In spite of the robustness of the result, financial dependency has a negligible impact upon choice. In contrast, the effect of budgetary surplus upon contracting with networks/partnerships is the most impressive in our transaction costs analysis. Both findings support our hypothesis that externalization is more common in times of economic prosperity. The transaction costs associated with external service delivery, particularly the loss of political control over service production represent a lesser risk when budgetary surplus and financial independency are the norm.

Conclusions and Implications

This work emphasizes both the economic transaction costs associated with service characteristics and the political transaction costs ensuing from the political arena where the outsourcing decision occurs. The analysis of Portuguese local service delivery confirms prior findings that service characteristics influence the decision concerning governance mechanisms (Brown and Potoski, 2003; Levin and Tadelis, 2007; Carr, LeRoux, and Shrestha, 2009). The externalization of services involving highly specific

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assets favors contractual options involving less risks of opportunistic behavior, namely the use of partnerships with not-for-profit organisations or with other governments. Highly complex and hard-to-measure activities are more amenable for delivery through hierarchical mechanisms to avoid contractual agreements that are difficult to design and monitor. These results are aligned with the theoretical predictions of transaction costs analysis (Williamson, 1985; 1996) and supported by other recent empirical research (Carr, LeRoux, & Shrestha, 2009; Lamothe, Lamothe, & Feiock; see Bel & Fageda (2007) for a meta-analysis).

The findings concerning political transaction costs represent a key contribution to the literature. Higher levels of political and administrative instability point to the adoption of market mechanisms and network partnerships rather than hierarchic mechanisms. These results can be understood in light of recent empirical work (Clingermayer & Feiock, 1997; Feiock, Clingermayer, Shrestha, & Dasse, 2007; Tavares & Camões 2010). Political instability leads to the externalization of services to shift responsibility for the provision to external agents. Once service provision is delegated to external actors, local officials can avoid blame for service disruptions.

Public provision of municipal services can also be regarded as a delegation decision to help shed some light on these findings. If the municipality produces the service directly, the delegation of authority is hierarchical and the costs incurred by elected officials are associated with internal monitoring of subordinate behavior. When the service is produced by contract with other agents, the delegation of authority is external, and agency costs are involved in monitoring activities.

Framing contracting out as a delegation decision is not entirely new in the literature. Andrew Whitford (2010) suggests that the delegation to sub-national units in a federalist system can be cast as a theory of franchising, where the delegation of power

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involves both constraints to franchisee behaviour and limitations to cross-franchise negative externalities. Likewise, the externalization of services entails franchise-like properties since it secures efficiency gains from market competition and coordination benefits from hierarchical authority.

Hence, local government officials regard the delegation decision as a trade-off between different types of transaction costs. Externalization is favoured when the inefficiencies resulting from agency costs and loss of political control to the external provider are surmounted by the presence of significant political transaction costs associated with in-house production. Contracting becomes the logical response to circumvent not only political and/or administrative turmoil, but also to address environmental turbulence. Highly dynamic and complex political environments lead to the adoption of market mechanisms and networks replacing traditional production using in-house bureaucracies. Externalization alternatives appear more frequently in more urban settings experiencing economic prosperity and significant population growth because these solutions are better at addressing preference diversity. In contrast, hierarchical solutions are preferred when political transaction costs are low compared to economic transaction costs associated with contracting decisions.

In sum, the results indicate that both service characteristics and political contexts are determinants of externalization decisions, underlining the resistance of Portuguese local governments to implement New Public Management reforms as a fashion. Whenever New Public Management governance mechanisms are adopted, it has been because they are regarded as appropriate management tools to provide specific services, not simply to mimic practices in other jurisdictions. Future work should provide more detail concerning the choice of governance mechanisms in specific service areas such as public works, economic development, and social services.

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One important limitation of our study is associated with capturing the actual decision-making process followed by local government officials. In fact, officials have first to decide whether or not to provide a service to their constituents and only after a positive answer to this question will they engage in studying alternative production modes. Although this thought process is frequently recognized in theory, research designs have systematically failed to address this fact. This would require a selection model where the first equation estimates the determinants of the decision to provide the service and the second equation employs a nominal dependent variable to reflect the production decision. Currently, standard statistical software packages do not allow the sequential treatment of provision and production decisions, but it is important to recognize this limitation in the research design in order to correct it in future work.

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Table 1. Service arrangement alternatives and governance mechanisms

Service Arrangement (Governance Mechanism)	Direct Control			Competition		Inter-organisational cooperation	
	Service delivery through direct orders of political leaders	Capacity of local government to nominate the CEO	Budget and personnel integrated in the local government structure	Relations based on a legal contract	Competitive environment when establishing relations with local government	Decision Making involve many actors besides local government officials	Shared information and resources
Municipal Services (HTM)	++	++	++	--	--	--	--
Municipalized Services (HTM)	++	++	+/-	--	--	--	--
Municipal Enterprises (HTM)	+	++	-	--	--	--	--
Contracting-out (MTM)	--	--	--	++	++	-	-
Franchise (MTM)	--	--	--	++	++	-	-
Mixed Commercial Societies (MTM)	--	+/-	-	+	+	+	+
Inter-municipal Enterprises (NTM)	-	++	-	--	--	+	+
Municipal Commercial Societies (NTM)	--	++	-	+	-	-	-
Public Commercial Societies (NTM)	--	+	-	+	-	+	+
Partnerships (NTM)	--	--	--	-	-	+	++
Local Government Associations (NTM)	-	++	--	--	--	++	++
Metropolitan Associations (NTM)	-	++	--	--	--	++	++

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Table 2. Variable description, expected signs and sources

Variable	Description	Source
Governance Mechanism	Dependent Variable; Measures the choice between alternatives. Takes the values of 1=Hierarchy; 2=Market; 3=Network.	Direct Survey to Municipalities (2008)
Asset Specificity	Likert scale ranging from 1 (low) to 5 (high).	Survey (2008)
Service Complexity	Likert scale ranging from 1 (low) to 5 (high).	Survey (2008)
Political Stability	Likert scale ranging from 1 (low) to 5 (high).	Survey (2008)
Administrative Stability	Likert scale ranging from 1 (low) to 5 (high).	Survey (2008)
Financial Dependency	Financial dependency is the proportion of central government grants in total local revenues.	Financial Yearbook (2006)
Net Debt	Total local budgetary balance (a negative number is a deficit).	Financial Yearbook (2006)
ISD	Index of social development as measured by Portuguese government.	INE (2006)
Income	Personal income per capita	INE (2006)
Population Growth	Rate of population growth (2001-2006)	INE (2006)
Area	Area in square kilometers	INE (2006)
Population Density	Population per square kilometer.	INE (2006)
Urban Land	Proportion of urban land in total area	INE (2006)

Table 3. Independent Variables Descriptive Statistics

	Mean	Standard Deviation	Maximum	Minimum
Asset specificity	3.40	.98	5	0
Service complexity	2.65	1.12	5	0
Political stability	4.54	.64	5	3
Administrative stability	4.48	.59	5	3
Financial dependency	.37	.21	.87	.07
Net debt				
Social Development Index	.90	.024	.94	.831
Income *per capita*	731.57	161.4	1523.05	546.13
Population growth rate	.34	6.82	24.47	-10.44
Area	302.12	251.25	1232.94	7.94
Population density	377.27	853.78	6015.50	10.49
Proportion of urban land	.12	.14	.635	.004

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Table 4. Provision and Production Choices for 42 Services

	Provision		Production Decision					
Services	Service Provided		Hierarchy		Market		Network	
Airports	12	(11.88%)	9	(75.00%)	2	(16.67%)	1	(8.33%)
Ambulance /EMS	56	(55.45%)	30	(53.57%)	1	(1.79%)	25	(44.64%)
Animal Control	59	(58.42%)	42	(71.19%)	1	(1.69%)	16	(27.12%)
Beautification	92	(91.09%)	78	(84.78%)	12	(13.04%)	2	(2.17%)
Building Maintenance	71	(70.30%)	60	(84.51%)	11	(15.49%)	0	(0.00%)
Building Security	67	(66.34%)	44	(65.67%)	23	(34.33%)	0	(0.00%)
Canteen service provision	40	(39.60%)	29	(72.50%)	8	(20.00%)	3	(7.50%)
Cemetery Services	89	(88.2%)	87	(97.75%)	2	(2.25%)	0	(0.00%)
Childcare services	74	(73.27%)	69	(93.24%)	1	(1.35%)	4	(5.41%)
City Planning	98	(97.03%)	95	(96.94%)	2	(2.04%)	1	(1.02%)
Code enforcement	87	(86.14%)	84	(96.55%)	2	(2.30%)	1	(1.15%)
Convention centres and auditoriums	78	(77.23%)	72	(92.31%)	1	(1.28%)	5	(6.41%)
Economic/industrial facilities	34	(33.66%)	28	(82.35%)	1	(2.94%)	5	(14.71%)
Electricity	46	(45.54%)	3	(6.52%)	32	(69.57%)	11	(23.91%)
Foreign relations	56	(55.45%)	52	(92.86%)	0	(0.00%)	4	(7.14%)
Health care services	35	(34.65%)	8	(22.86%)	13	(37.14%)	14	(40.00%)
Housing	69	(68.32%)	65	(94.20%)	0	(0.00%)	4	(5.80%)
Industrial facilities	44	(43.56%)	39	(88.64%)	4	(9.09%)	1	(2.27%)
Library	87	(86.14%)	87	(100.00%)	0	(0.00%)	0	(0.00%)
Museums	57	(56.44%)	56	(98.25%)	0	(0.00%)	1	(1.75%)
Parking services	42	(41.58%)	30	(71.43%)	12	(28.57%)	0	(0.00%)
Parking structures and facilities	57	(56.44%)	47	(82.46%)	10	(17.54%)	0	(0.00%)
Police	17	(16.83%)	16	(94.12%)	0	(0.00%)	1	(5.88%)
Poverty prevention programs	79	(78.22%)	57	(72.15%)	0	(0.00%)	22	(27.85%)
Public Bus System	47	(46.53%)	19	(40.43%)	27	(57.45%)	1	(2.13%)
Recreation facilities	89	(88.12%)	83	(93.26%)	2	(2.25%)	4	(4.49%)
Road Maintenance	85	(84.16%)	56	(65.88%)	29	(34.12%)	0	(0.00%)
School bus	89	(88.12%)	58	(65.17%)	28	(31.46%)	3	(3.37%)
School management	82	(81.19%)	79	(96.34%)	2	(2.44%)	1	(1.22%)
Senior centre	68	(67.33%)	38	(55.88%)	3	(4.41%)	27	(39.71%)
Sewage treatment	85	(84.16%)	42	(49.41%)	16	(18.82%)	27	(31.76%)
Solid Waste collection	92	(91.09%)	45	(48.91%)	22	(23.91%)	25	(27.17%)
Solid Waste treatment	90	(89.11%)	10	(11.11%)	19	(21.11%)	61	(67.78%)
Stadiums and arenas	62	(61.39%)	52	(83.87%)	4	(6.45%)	6	(9.68%)
Street cleaning	79	(78.22%)	69	(87.34%)	6	(7.59%)	4	(5.06%)
Theatres	55	(54.46%)	53	(96.36%)	1	(1.82%)	1	(1.82%)
Tourism promotion	92	(91.09%)	85	(92.39%)	1	(1.09%)	6	(6.52%)
Traffic control and planning	82	(81.19%)	80	(97.56%)	1	(1.22%)	1	(1.22%)
Urban re-qualification	73	(72.28%)	70	(95.89%)	0	(0.00%)	3	(4.11%)
Veterinary services	86	(85.15%)	79	(91.86%)	5	(5.81%)	2	(2.33%)
Water distribution	95	(94.06%)	68	(71.58%)	12	(12.63%)	15	(15.79%)
Youth development	46	(45.54%)	36	(78.26%)	3	(6.52%)	7	(15.22%)
Total Provision (N=101)	*2843*		*2209*	*(77.70%)*	*319*	*(11.22%)*	*315*	*(11.08%)*

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Table 5. Multinomial Logit Regression Explaining Service Delivery Arrangements (Base Category: Hierarchy)

	Market Production	Network/Partnership	Market Production	Network/Partnership	Market Production	Network/Partnership
Independent Variables	Coefficient (RSE)	Coefficient (RSE)	Coefficient (RSE)	Coefficient (RSE)	Coefficient (RSE)	Coefficient (RSE)
Asset specificity	-.124 (.082)	.435*** (.087)	-.092 (.080)	.445*** (.088)	-.151* (.079)	.408*** (.083)
Service complexity	-.293*** (.077)	-.042 (.071)	-.274*** (.079)	-.052 (.069)	-.252*** (.078)	-.020 (.066)
Political stability	-.191 (.137)	-.448*** (.145)	-.269** (.122)	-.310** (.126)		
Administrative stability	-.257* (.143)	.062 (.158)	-.060 (.131)	-.043 (.138)		
Financial dependency	-3.267*** (.803)	-.788 (.853)	.424 (.327)	.016 (.393)		
Net debt	-.000 (-.000)	.000** (.000)	-.000*** (.000)	-.000 (.000)		
Social Development Index	27.2*** (7.97)	-2.75 (6.86)				
Income *per capita*	.002** (.001)	-.000 (.001)				
Population growth rate	-.002 (.018)	.030* (.016)				
Area	.000 (.000)	.001* (.000)				
Population density	-.001** (.000)	-.001** (.000)				
Proportion of urban land	2.88** (1.24)	3.36*** (1.19)				
Constant	-23.9*** (7.03)	.633 (5.90)	.407 (.667)	-1.87*** (.682)	-.838*** (.274)	-3.35*** (.310)
Observations	2071		2071		2143	
Wald chi2 (24)	131.26		72.63		47.68	
Prob > chi2	0.000		0.000		0.000	
Pseudo R2	0.045		0.027		0.021	

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Table 6. Relative Risk Ratio Values and Marginal Effects

	Hierarchy versus Market Production		Hierarchy versus Partnerships/Networks	
	RRR	Percentage Change in Predicted Probabilities from Minimum to Maximum Values	RRR	Percentage Change in Predicted Probabilities from Minimum to Maximum Values
Asset specificity	.884		1.55***	394.52%
Service complexity	.746***	-64.77%	.956	
Political stability	.826		.639***	-52.21%
Administrative stability	.774*	-37.38%	1.06	
Financial dependency	.038***	-0.91%	.455	
Net debt	1.00		1.00**	811.15%
Social Development Index	6.26e+11***	1110.31%	0.064	
Income *per capita*	1.002**	421.39%	0.999	
Population growth rate	0.998		1.030*	151.72%
Area	1.000		1.001*	69.59%
Population density	0.999**	-94.43%	0.999**	-98.49%
Proportion of urban land	17.903**	227.02%	28.648***	325.57%

The predicted probabilities of each production alternative: hierarchy (80.3%), market (9.83%) and networks/partnerships (9.87%). The percentage change in predicted probabilities is calculated by varying each independent variable from its minimum to its maximum observed value and setting the remaining independent variables at their means. The percentages indicate the increase or decrease in probability of external production compared to hierarchical/direct provision. *p<.10; **p<.05; ***p<.01; two-tailed tests.

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